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FIGURES

FIG. 1

pTV2 gDsE2

pTV2 gDsE2t

pTV2 ST

pTV2 ΔST

pTV2 SN2

pTV2 ΔSN2

pTV2 gDsST

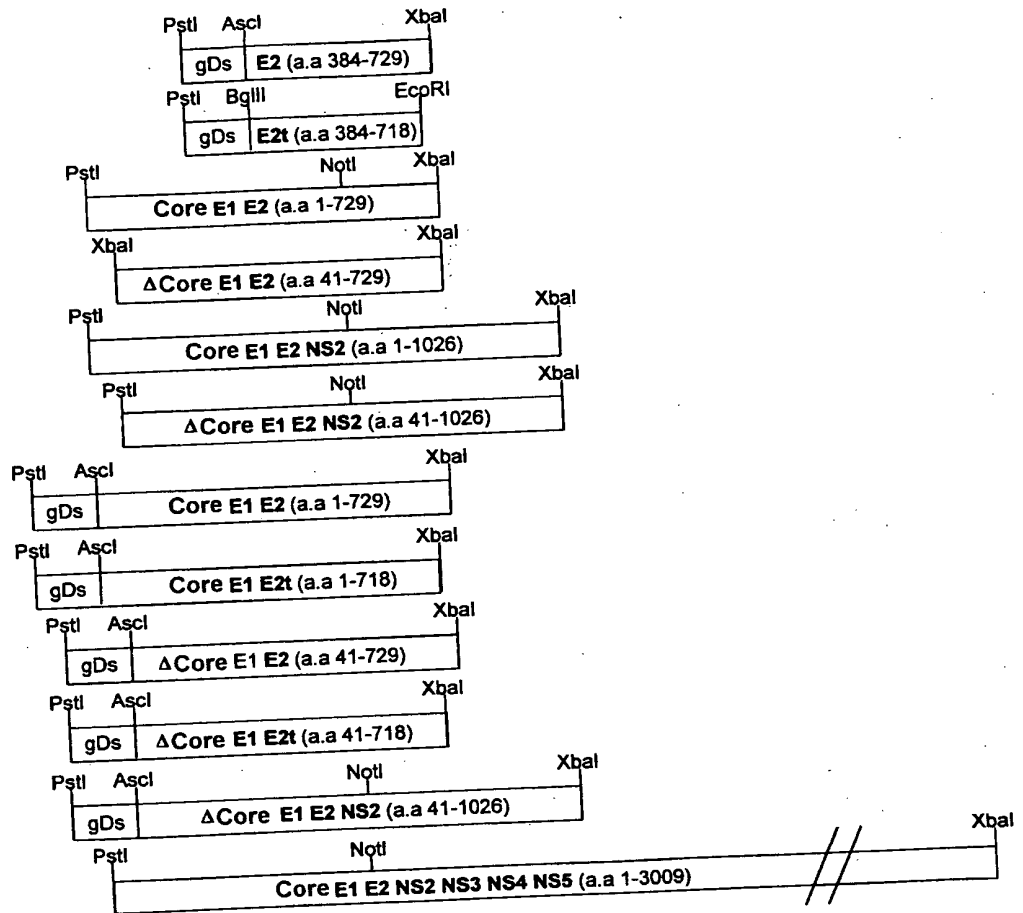
pTV2 gDsSTt

pTV2 gDsΔST

pTV2 gDsΔSTt

pTV2 gDsΔSN2

pTV2 SN5

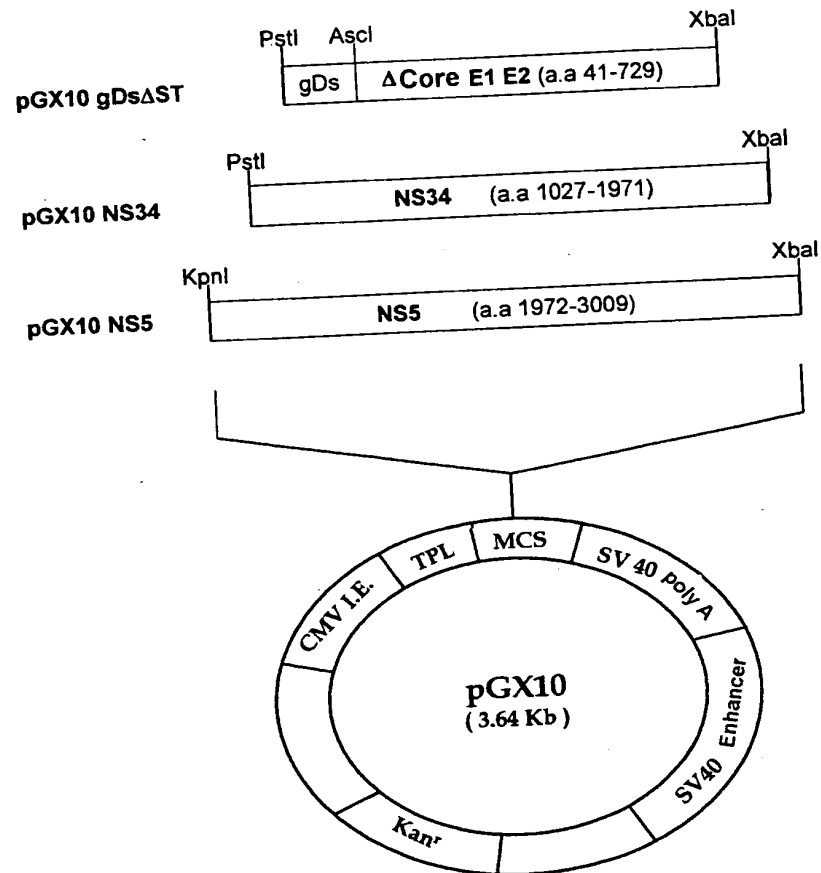


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FIG. 2

HC102

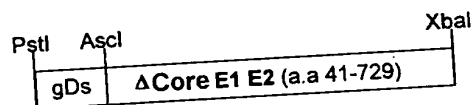


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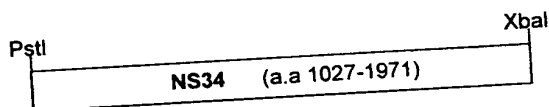
FIG. 3

HC103

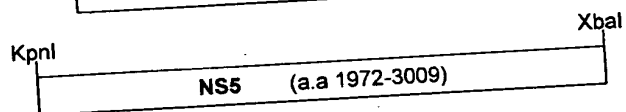
pGX10 gDs Δ ST



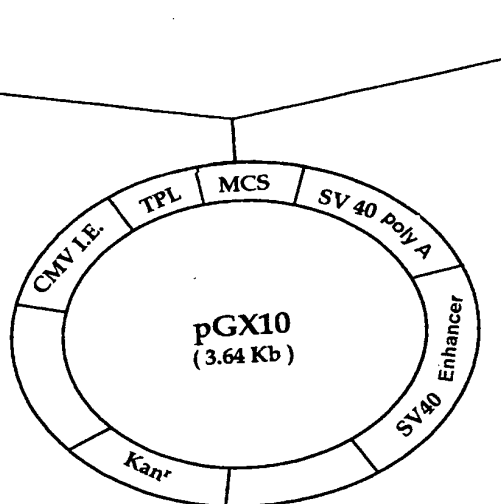
pGX10 NS34



pGX10 NS5

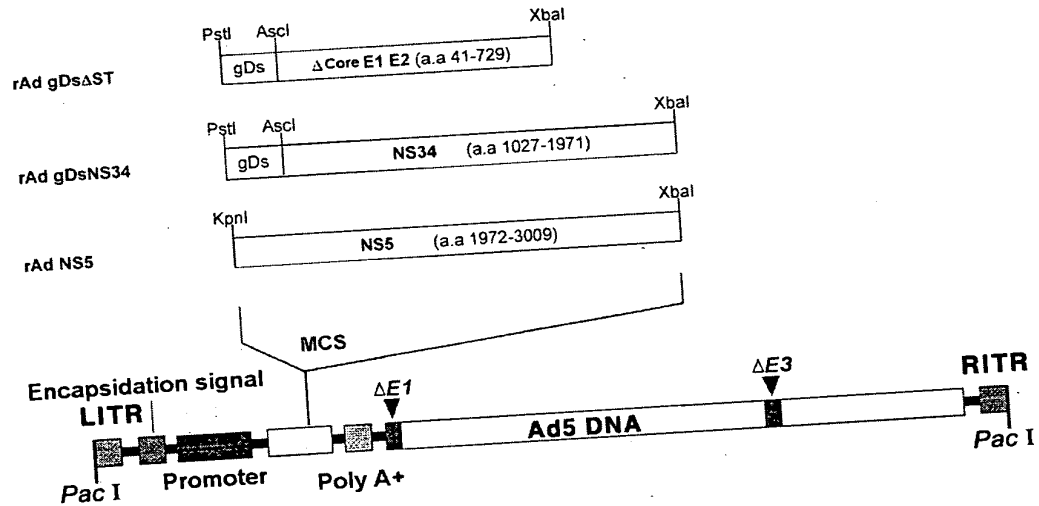


pGX10 hIL-12^m



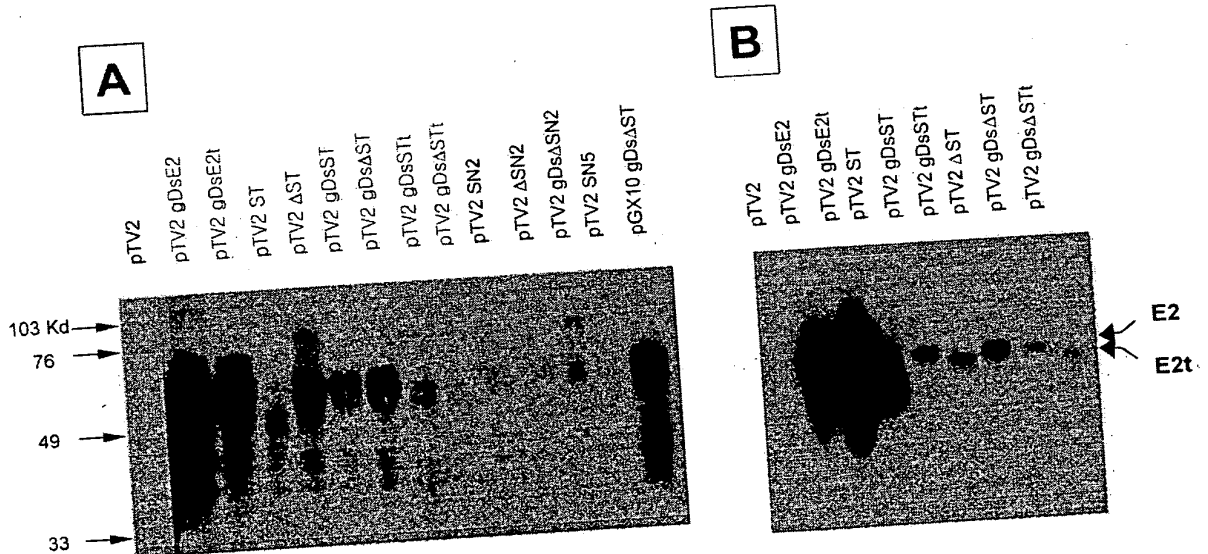
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FIG. 4



rAd HC102

FIG. 5



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FIG. 6

COS-7

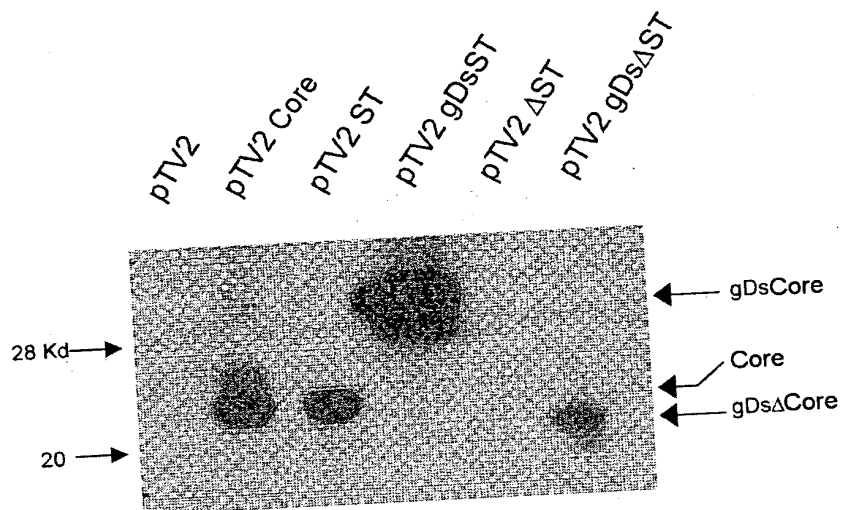
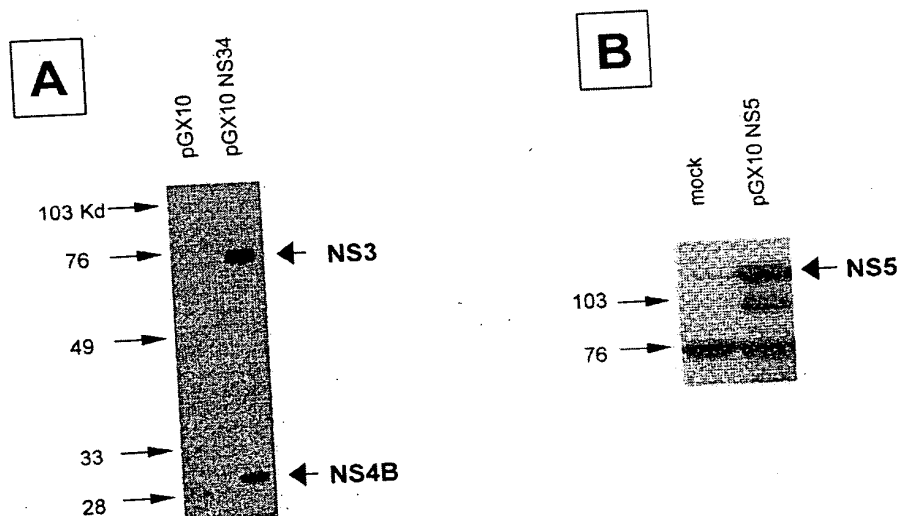


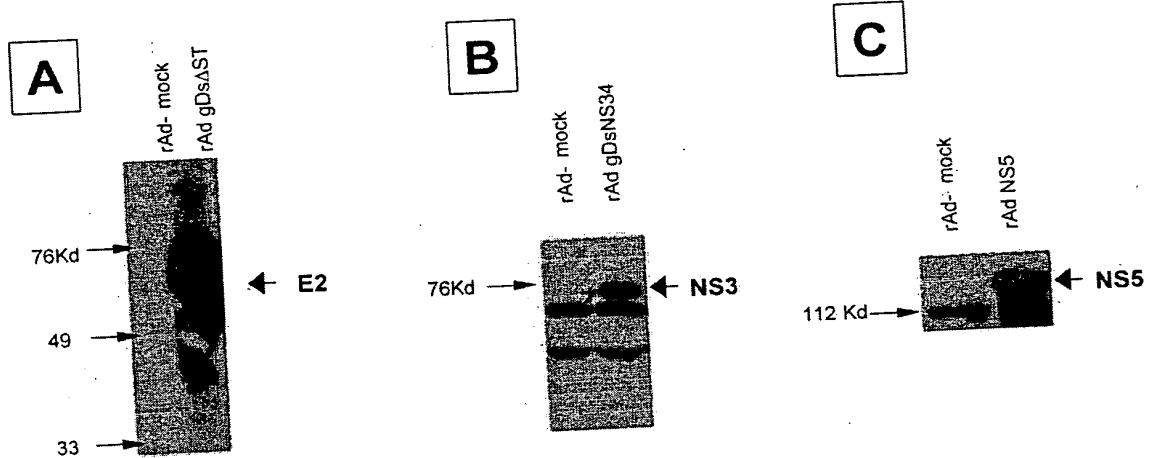
FIG. 7

COS-7



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FIG. 8

293A



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FIG. 9

Optimization of insert size

(5 weeks after immunization)

E2 specific IFN-r ELISPOT & CTL response
target cell : 2×10^4 CT26-hghE2t/well

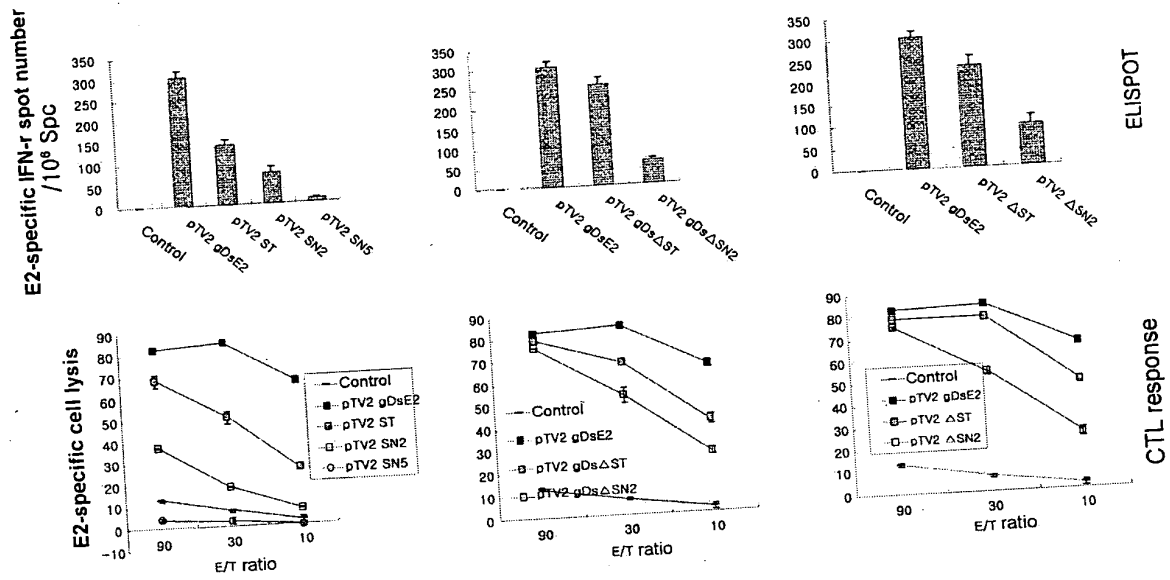
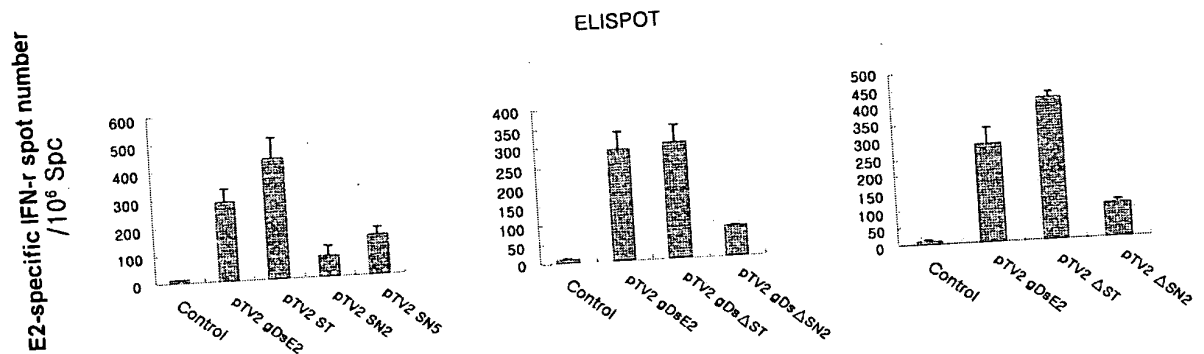


FIG. 10

Optimization of insert size

(3, 4 weeks after boosting)

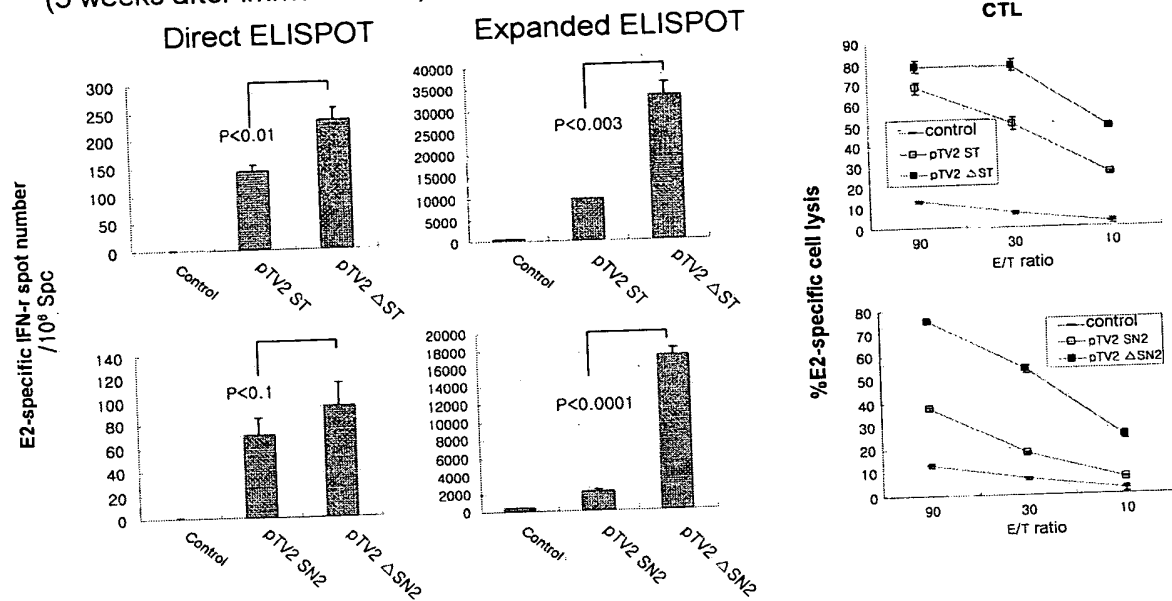
E2 specific IFN-r ELISPOT & CTL response
target cell : 2×10^4 CT26-hghE2t/well



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FIG. 11

Truncation of core N-terminus
(5 weeks after immunization)



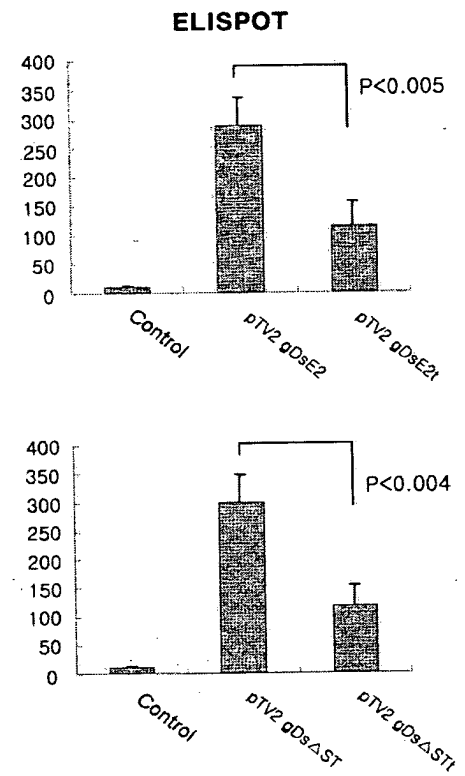
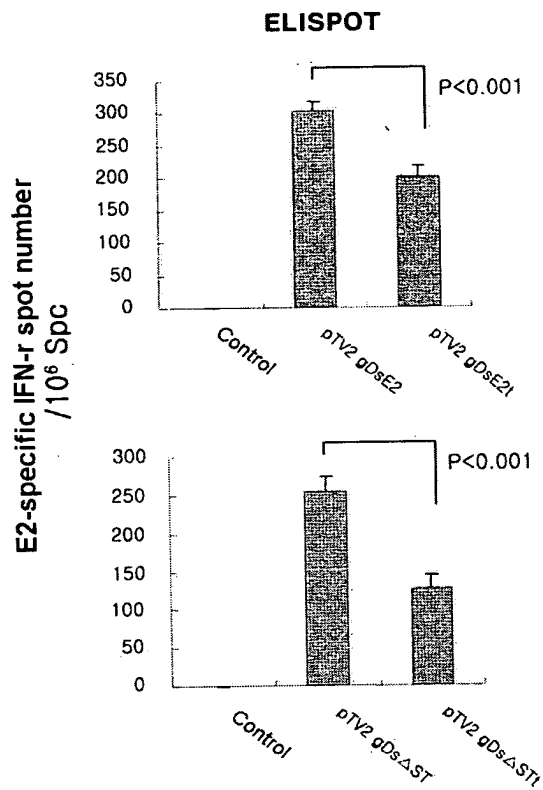
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FIG. 12

Truncation of E2 TM domain

5 weeks after immunization

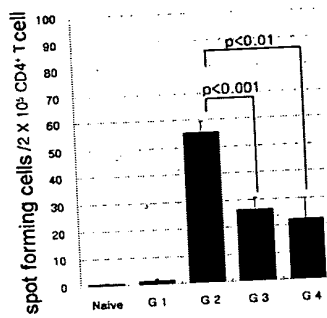
3.4 weeks after boosting



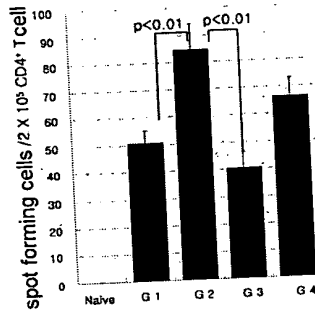
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FIG. 13

a. E2 specific IFN- γ ELISPOT

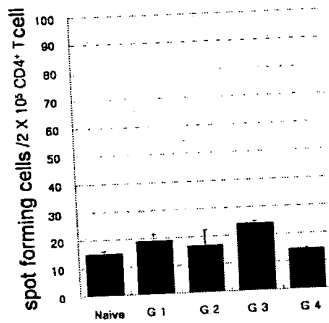


b. core specific IFN- γ ELISPOT

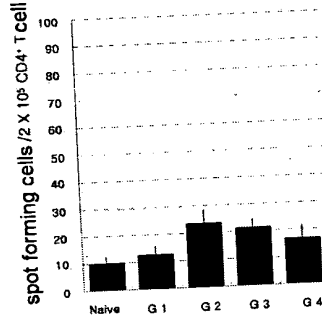


naive :saline injected control
G 1: pGX10 gDsΔST + pGX10
mIL-12mutant injection ->
pGX10 gDsΔST + pGX10
mIL-12mutant injection
G 2: pGX10 gDsΔST + pGX10
mIL-12mutant injection ->
rAd gDsΔST injection
G 3: rAd gDsΔST injection ->
rAd gDsΔST injection
G 4: rAd gDsΔST injection ->
pGX10 gDsΔST + pGX10
mIL-12mutant injection

c. E2specificIL-4 ELISPOT

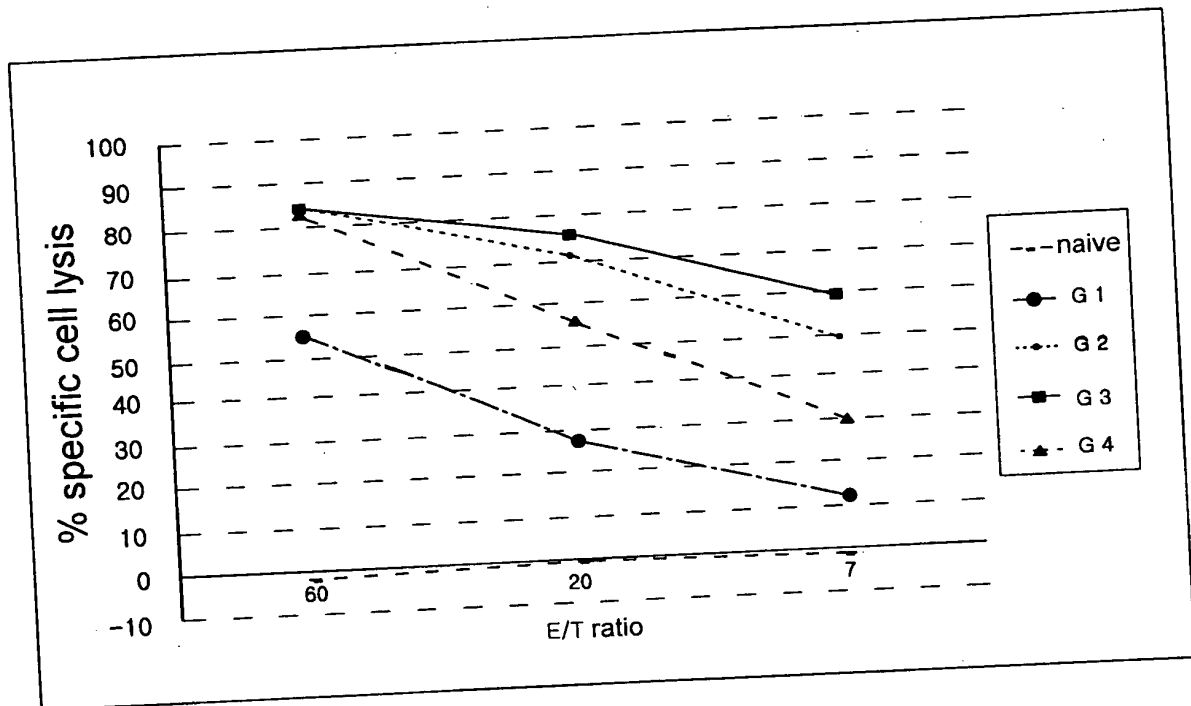


d. core specific IL-4 ELISPOT



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FIG. 14

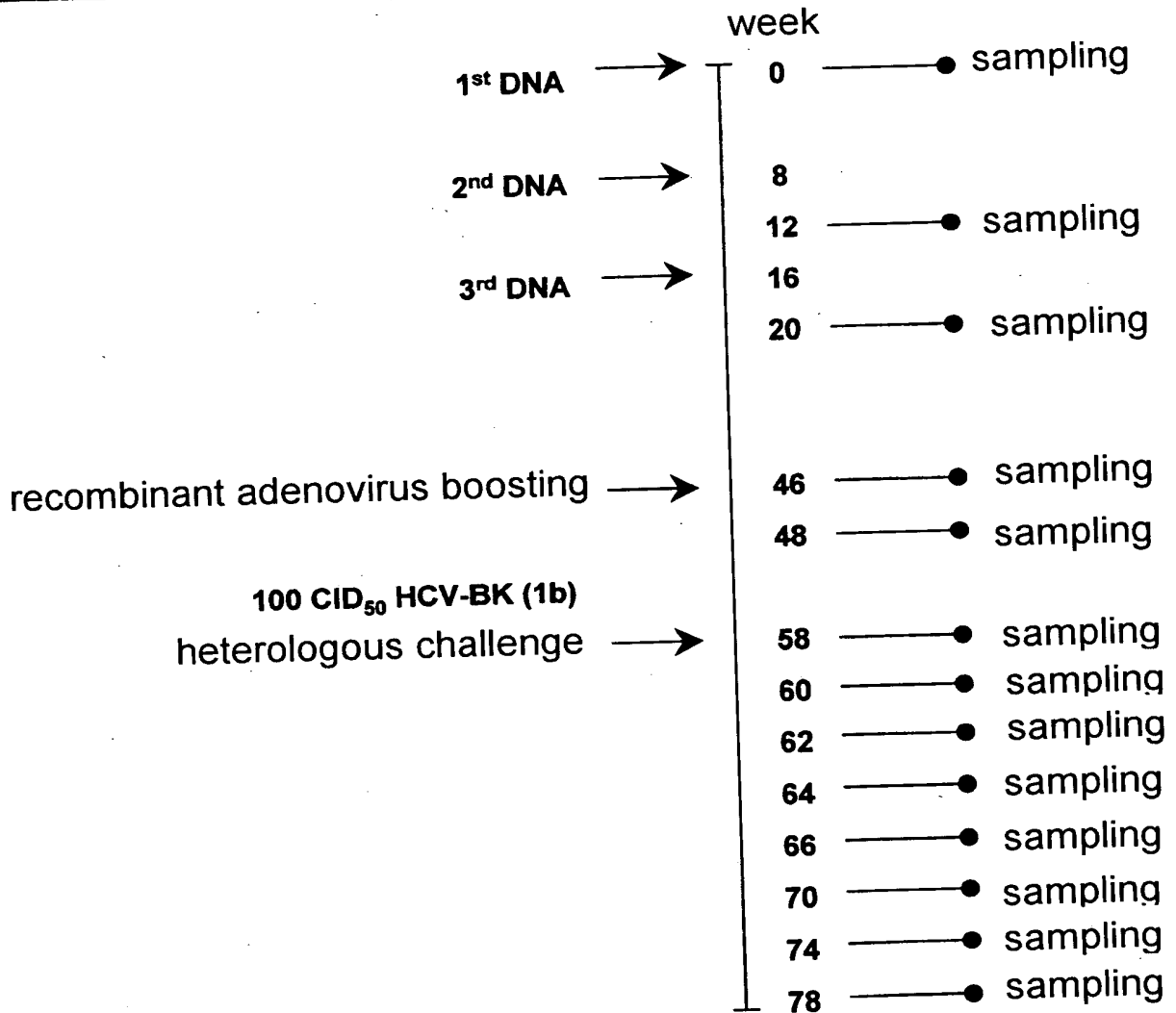


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FIG. 15

(schedule)

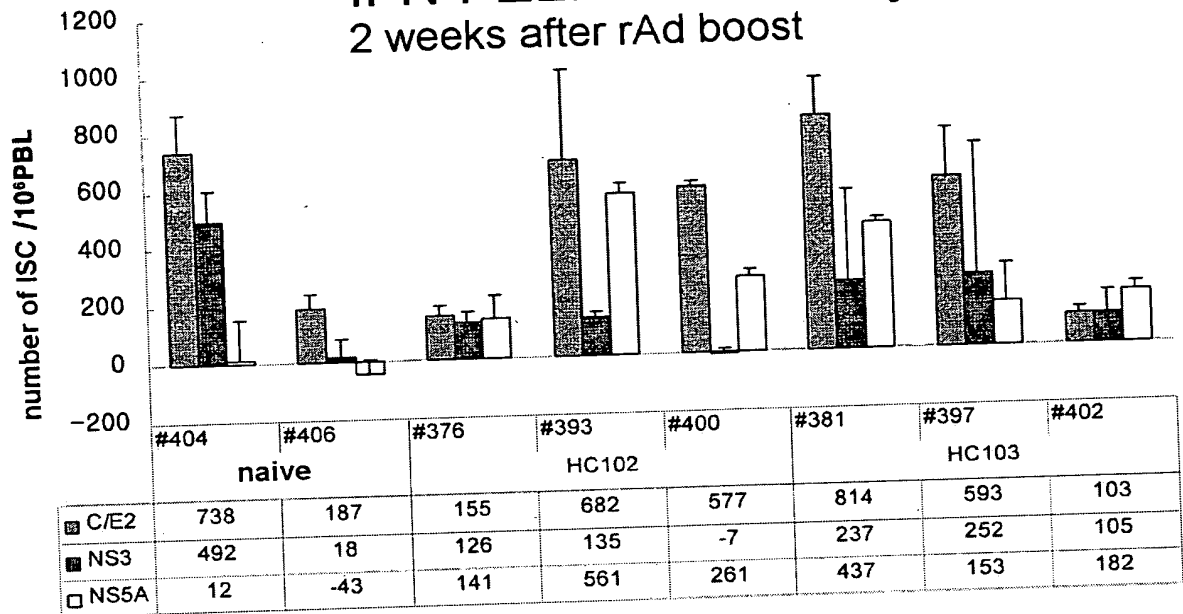
DNA prime/ rAd boost



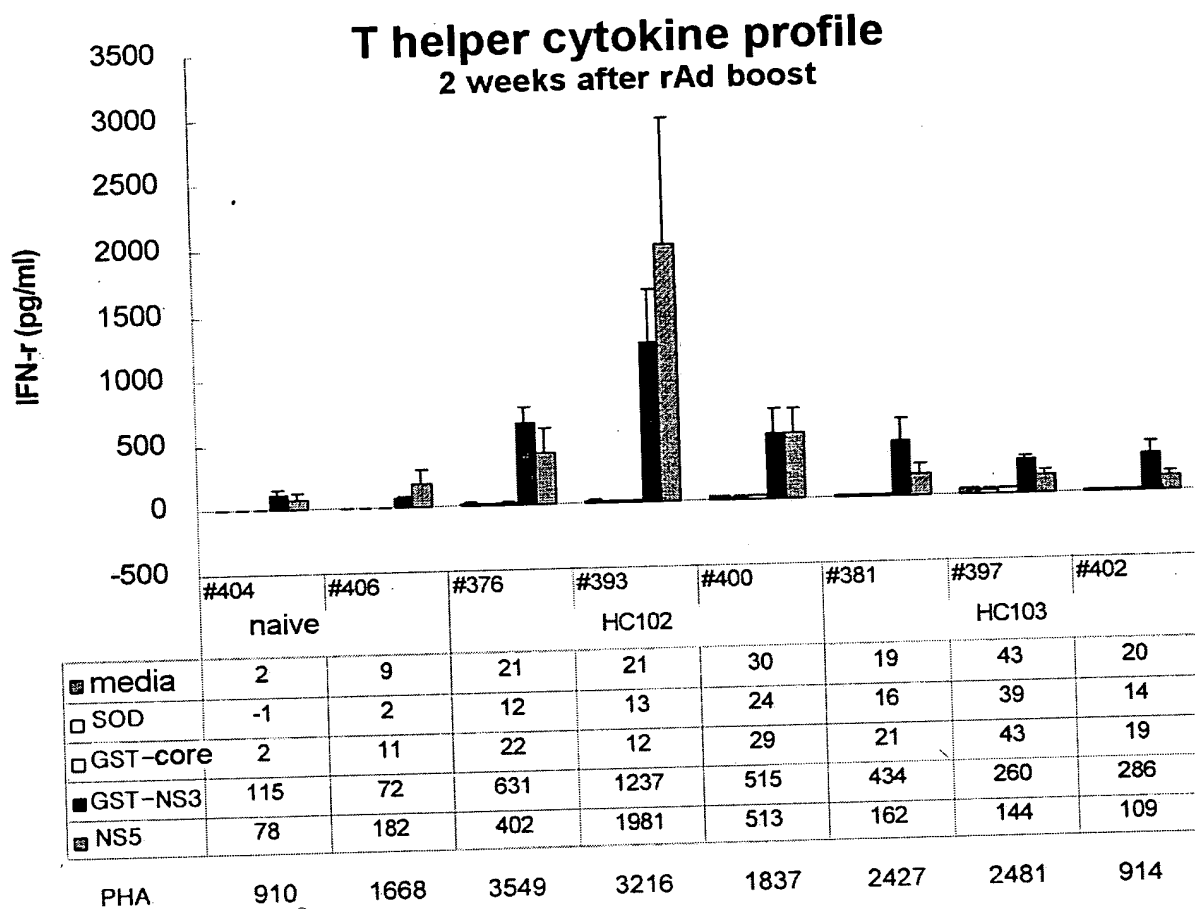
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FIG. 16

IFN-r ELISPOT Assay 2 weeks after rAd boost



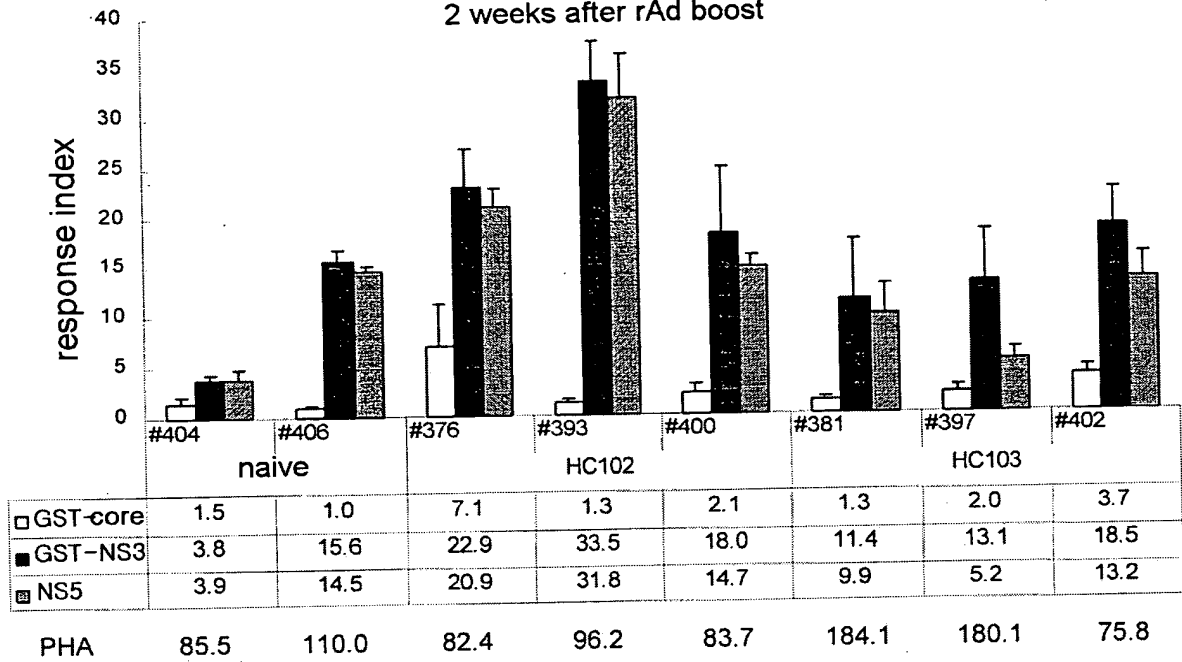
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FIG. 17



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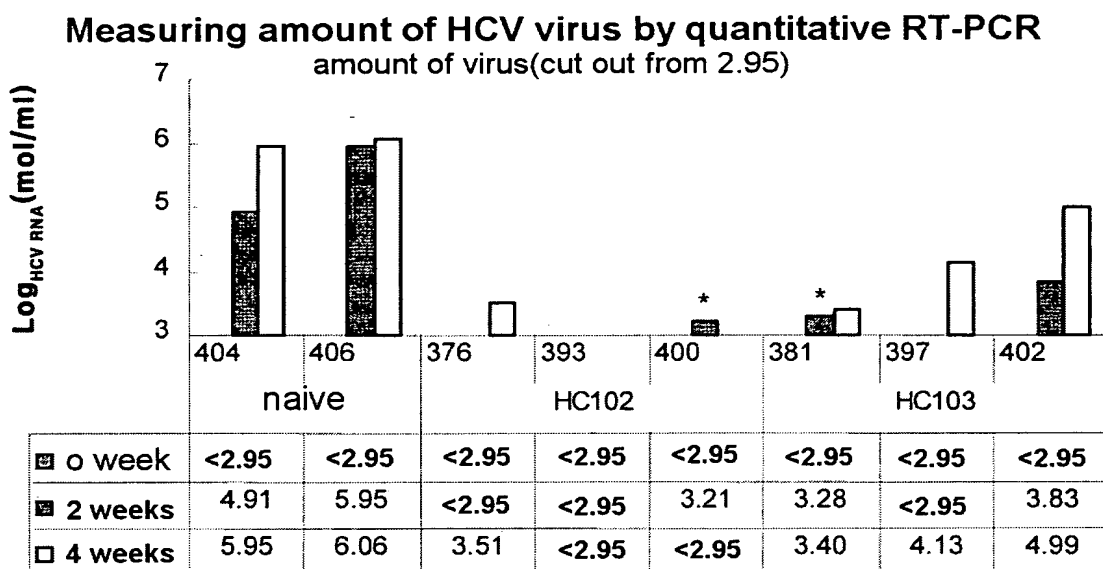
FIG. 18

T cell Proliferative response
2 weeks after rAd boost



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FIG. 19



after challenge

detection limit of HCV RNA is $2.95\log_{10}$

* mean amount of HCV RNA with triplicate measurement, one of which was below the detection limit.

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FIG. 20a

Amino acid sequence of
core peptide pool

Δ Core (43-191)		
No	Name	Sequence
#1	HCV43-62	RLGVRAIRKT SERSQPRGRR
#2	HCV53-72	SERSQPRGRR QPIPKARQPE
#3	HCV63-82	QPIPKARQPE GRTWAQPGYP
#4	HCV73-92	GRTWAQPGYP WPLYGMEGLG
#5	HCV83-102	WPLYGMEGLG WAGWLLSPRG
#6	HCV93-112	WAGWLLSPRG SRPSWGPTDP
#7	HCV103-122	SRPSWGPTDP RRRSRNLGKV
#8	HCV113-132	RRRSRNLGKV IDTLTCGFAD
#9	HCV123-142	IDTLTCGFAD LMGYIPLUGA
#10	HCV133-152	LMGYIPLUGA PLGGVARALA
#11	HCV143-162	PLGGVARALA HGURLLEDGV
#12	HCV153-172	HGURLLEDGV NYATGNLPGC

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FIG. 20b

Amino acid sequence of E2t peptide pool

E2t (384-713)					
No	Name	Sequence	No	Name	Sequence
#13	HCV384-403	STRVTGGTEG RTTNRFVSI	#29	HCV554-573	WMNSTGFTKT CGGPPCDIGG
#14	HCV404-423	ASGPSQKIQL VMNNGSWMH	#30	HCV564-583	CGGPPCDIGG UGNTLTLCPT
#15	HCV414-433	VMNNGSWMH RTALNCNDSL	#31	HCV574-593	UGNTLTLCPT DCIRKHPEAT
#16	HCV424-443	RTALNCNDSL SSGFIAALFY	#32	HCV584-603	DCIRKHPEAT YTKCGSGPWL
#17	HCV434-453	SSGFIAALFY THKFDSSGCP	#33	HCV594-613	YTKCGSGPWL TPRCMVDYPY
#18	HCV444-463	THKFDSSGCP ERMASCRP ID	#34	HCV604-623	TPRCMVDYPY RLWHYPCTIN
#19	HCV454-473	ERMASCRP ID KFAQGGGSI	#35	HCV614-633	RLWHYPCTIN FTIFKRMVY
#20	HCV464-483	KFAQGGGSI YAESGGSDQR	#36	HCV624-643	FTIFKRMVY GGVEHRLDAA
#21	HCV474-493	YAESGGSDQR PYCWHYAPRQ	#37	HCV634-653	GGVEHRLDAA CMWTRGERCD
#22	HCV484-503	PYCWHYAPRQ CGIUPASQVC	#38	HCV644-663	CMWTRGERCD LEDRDRSELS
#23	HCV494-513	CGIUPASQVC GPVYCITPSP	#39	HCV654-673	LEDRDRSELS PLLSTTEWQ
#24	HCV504-523	GPVYCITPSP UVUGTTDRSG	#40	HCV664-683	PLLSTTEWQ VLPCSTTLP
#25	HCV514-533	UVUGTTDRSG APTYTWGENE	#41	HCV674-693	VLPCSTTLP ALSTGLIHLN
#26	HCV524-543	APTYTWGENE TDULLLNMT	#42	HCV684-703	ALSTGLIHLN QNIUHAQHLN
#27	HCV534-553	TDULLLNMT PPQANWFGCT	#43	HCV694-713	QNIUHAQHLN GUGSAUVSIV
#28	HCV544-563	PPQANWFGCT WMNSTGFTKT			

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FIG. 20c

Amino acid sequence of NS3 protease peptide pool

NS3 protease (1029-1217)		
#44	gHCV-1029	ITAYSQQTRGLLGCIITSLT
#45	gHCV-1039	LLGCIITSLTGRDKMQVEGE
#46	gHCV-1069	FLATCUMGAWTVFHGAGSK
#47	gHCV-1078	WTVFHGAGSKTLAGPKGPIT
#48	gHCV-1088	TLAGPKGPITQMYTNVDL
#49	gHCV-1098	QMYTNVDLVLVGWQAPPGSR
#50	gHCV-1108	VGWQAPPGSRPLTPCTCGSS
#51	gHCV-1118	PLTPCTCGSSDLYLVRHAD
#52	gHCV-1128	DLYLVRHADVIPVRRGDS
#53	gHCV-1138	VIPVRRGDSRGSLPCPRPV
#54	gHCV-1148	RGSLPCPRPVSYLKGSSGGP
#55	gHCV-1158	SYLKGSSGGPLLCPSGHAUG
#56	gHCV-1168	LLCPSGHAUGIFRAAVCTRG
#57	gHCV-1178	IFRAAVCTRGVAKAVDFIPV
#58	gHCV-1188	VAKAVDFIPVESMETTMRSP
#59	gHCV-1198	ESMETTMRSPVITDNTSTPPA

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FIG. 20d

Amino acid sequence of Helicase peptide pool

NS3 helicase (1208-1656)					
No	Name	Sequence	No	Name	Sequence
#60	HCV1208-1227	VFTDNSTPPA VPQTFQVAHL	#77	HCV1458-1477	TQTUDFSLDP TFT IDTTTUP
#61	HCV1218-1237	VPQTFQVAHL HAPTGSCKST	#78	HCV1468-1487	TFT IDTTTUP QDAUSRSQRR
#62	HCV1228-1247	HAPTGSCKST KUPAAYAAQG	#79	HCV1478-1497	QDAUSRSQRR GRTGRGRRGI
#63	HCV1238-1257	KUPAAYAAQG YKULULMPSU	#80	HCV1488-1507	GRTGRGRRGI YRFVTPGERP
#64	HCV1248-1267	YKULULMPSU AATLGFGVYM	#81	HCV1498-1517	YRFVTPGERP SGHFDSSULC
#65	HCV1258-1277	AATLGFGVYM SKANGIDPNI	#82	HCV1518-1537	ECYDAGCAWY ELTPAETSUR
#66	HCV1268-1287	SKANGIDPNI RTGURAITTG	#83	HCV1528-1547	ELTPAETSUR LRAYLNTPLGL
#67	HCV1278-1297	RTGURAITTG APITYSTYCK	#84	HCV1538-1557	LRAYLNTPLGL PUCQDNHLEFW
#68	HCV1318-1337	HSTDSTSLG IGTULDQAEI	#85	HCV1548-1567	PUCQDNHLEFW ESUITGLTHI
#69	HCV1328-1347	IGTULDQAEI AGARLVULAT	#86	HCV1558-1577	ESUITGLTHI DAHFLSQTQK
#70	HCV1348-1367	ATPPGVSUTUP HPNIEEVALS	#87	HCV1568-1587	DAHFLSQTQK AGDNFPLVLA
#71	HCV1358-1377	HPNIEEVALS HTGEIPFYCK	#88	HCV1578-1597	AGDNFPLVLA YQATUCARAQ
#72	HCV1368-1387	HTGEIPFYCK AIPIEVIKGG	#89	HCV1588-1607	YQATUCARAQ APPPSWDQMW
#73	HCV1388-1407	RHLIFCHSEK KSDELAACKS	#90	HCV1598-1617	APPPSWDQMW KCLTRLKPTL
#74	HCV1398-1417	KSDELAACKS ALGLNAVAYY	#91	HCV1608-1627	KCLTRLKPTL HGPTPLLYRL
#75	HCV1408-1427	ALGLNAVAYY RGLDVSUIPT	#92	HCV1618-1637	HGPTPLLYRL GAUQNEUTLT
#76	HCV1418-1437	RGLDVSUIPT SGDUUUUATD	#93	HCV1628-1647	GAUQNEUTLT HPUTKFIHAC

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FIG. 20e

Amino acid sequence of NS5A peptide pool

NS5A (1972-2411)					
No	Name	Sequence	No	Name	Sequence
#94	gHCV-1972	SGSULRDVQDWICTULTDFK	#113	gHCV-2192	GSPPSLASSASQLSAPSLK
#95	gHCV-1982	WICTULTDFKTWLQSKLLPR	#114	gHCV-2202	ASQLSAPSLKATCT IHNDSP
#96	gHCV-1992	TWLQSKLLPRLPGUPFFSCQ	#115	gHCV-2212	ATCT IHNDSPDADL IEAMLL
#97	gHCV-2002	LPGUPFFSCQRCYKGVWRGE	#116	gHCV-2222	DADL IEAMLLWRQEMGGNIT
#98	gHCV-2012	RGYKGVWRGEGIMQTTCPG	#117	gHCV-2232	WRQEMGGNITRVESENKVV I
#99	gHCV-2022	GIMQTTCPGCAQIAGHVKNK	#118	gHCV-2242	RVESENKVVILDSIEP IRAE
#100	gHCV-2042	SMRIUGPRTCSNTWNGTFPI	#119	gHCV-2252	LDSIEP IRAEEDEREVSUPA
#101	gHCV-2052	SNTWNGTFPIINAYTTGPCSP	#120	gHCV-2262	EDEREVSUPAEILRRSRKFP
#102	gHCV-2062	NAYTTGPCSPSPAPNYSRAL	#121	gHCV-2272	EILRRSRKFPAMP IWAPPD
#103	gHCV-2072	SPAPNYSRALWRVAAEEYVE	#122	gHCV-2292	YMPPLLESUKDPDYUPPVUH
#104	gHCV-2082	WRVAAEEYVEUTRUGDFHYV	#123	gHCV-2302	DPDYUPPVUHGCPLPPTKAA
#105	gHCV-2092	UTRUGDFHYVGTGUTTDNVKC	#124	gHCV-2322	PIPPPRRKRTIULTTESTVSS
#106	gHCV-2102	TGUTTDNVKCPQCUPAPEFF	#125	gHCV-2332	IULTTESTVSSALAEATKTF
#107	gHCV-2122	TELDGVRLHRYAPACKPELLR	#126	gHCV-2342	ALAEATKTFGGSGSWAADS
#108	gHCV-2132	YAPACKPELLRDEVSFQUGLN	#127	gHCV-2352	GGSGSWAADSGTATAPPDQT
#109	gHCV-2152	QYLVGSQLPCEPEPDVAULT	#128	gHCV-2372	SDDGDKESDVESYSSMPPLE
#110	gHCV-2162	EPEPDVAULTSMLTDP SHIT	#129	gHCV-2382	ESYSSMPPLEGEPEGDPDLSD
#111	gHCV-2172	SMLTDP SHITAETAKRRLAR	#130	gHCV-2392	GEPEGDPDLSDGSWSTVSEEA
#112	gHCV-2182	AETAKRRLARGSPPSLASSS			

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